



# Exploring the Concept of CBDs in the Indian Context

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## Abstract

The Dynamics of an Urban Metropolis changes over time. As said through years, time and tide waits for none, and so Cities transform themselves over a period of time, this metamorphosis is brought upon by a number of social, spatial, cultural, economic and ecological factors. This paper examines the context of CBDs in Indian Scenario, and the background theories related to them, with Ghaziabad as a specific case study. Ghaziabad, one of the prime cities of the NCR (North Central Region) has witnessed rapid development in the past two decades. While the outskirts of the city is growing at a remarkable pace, the inner city, including the old city and the identified CBD, has given way to congestion and chaos. An attempt has been made to delineate the CBD area of Ghaziabad, based upon a number of qualitative features taken from various literary sources. The methodology adapted has been derived from research papers citing examples of cities similar to Ghaziabad. The basic goals of the study being to delineate the CBD area of Ghaziabad city and to analyze the importance of CBDs in the Indian Context .The delineation is based upon some Quantitative features of CBD as highlighted in literary sources. The core area of a city is a special character of any urban centre. On this basis, the concept of “Central Business District” has been developed in western countries. In this context, the concept of Central Business District has been applied to Ghaziabad, Uttar Pradesh, India.

## Keywords:

Concept of CBDs, Quantitative features of CBD, Central Business District, CBD In Ghaziabad

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## Introduction: CBD in the Indian Context, Transition and Evolution

The idea of CBDs never existed in the Indian scenario, the city centre became the commercial core and it was identified as the centre for Trade and Commerce as well. The Urban Sprawl generated a wave of transportation corridors and hence, there was a need to establish designated CBDs with all the public amenities at one place, commerce, institution and services. After partition of India in 1947, cities grew rapidly as there was an immediate need to accommodate the refugees from Pakistan and Bangladesh. Hence, Delhi and its nearby areas witness rapid growth. Gradually, the concept of District centers soaked in, and various district centers emerged all over developing cities. One good example of this transition phase is Delhi, where Chandni Chowk in Old Delhi was once the commercial centre, and then Lutyen's Delhi and Connaught place was developed, eventually, various district centers like Nehru Place, Bhikaji Cama place were built, changing the face and skyline of New Delhi.

Figure 1 shows the plans of Old Delhi(Shahjahanabad) and Chandni Chowk area and Edwin Lutyen's New Delhi which came up in the 1920s. In Old Delhi, Mixed use was found primarily all along the streets and every house is at a walkable distance from an Institution. The question is Why did CBDs emerge in New Delhi or in general, in India ? These were self contained units created to handle the entire commercial and office space needs of the city, hence, taking off pressure from the existing commercial nodes. This case study was done in 2011 by Les Ateliers Studio where an attempt has been made to trace the development of CBDs in the Indian Context and the subsequent impacts on Indian commerce. The figure shows the concept of commerce at a city level, the former being the medieval and traditional "street" market of Chandni Chowk, and the latter being a part of the colonial planned Development. Similar studies were undertaken at a zone level and at the unit level.(fig ) In order to

understand the bridging gap between Architecture and Planning, i.e. Urban Design, studies should be undertaken starting from the micro-level to the macro-level i.e. at City or a District Level.

At a zone level, as shown in Figure 2 a completely

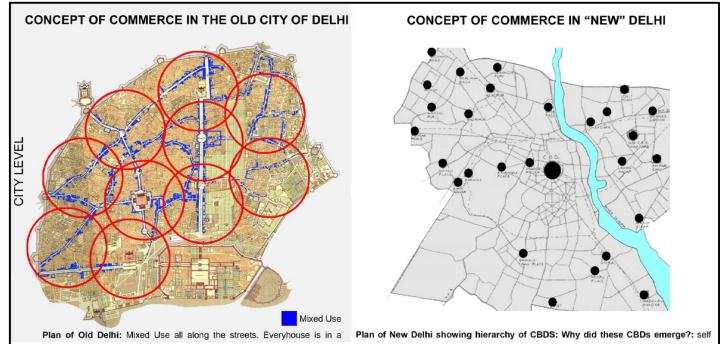


Figure 1 shows the plans of Old Delhi(Shahjahanabad) and Chandni Chowk area and Edwin Lutyen's New Delhi which came up in the 1920s.

shaded pedestrian street facilitates walking and makes a place easy to move around, as a lot of people even today prefer street shopping over shopping malls. New Delhi was divided into zones, and each zone having a population of about 4-5 lakhs has a CBD serving all commercial, employment, institutional and socio-cultural needs. At a unit level, segregation of semi-public and private areas is of primary importance.

In the Indian context, the old commercial areas have some peculiar features:

- Often, the Old Core of the City with

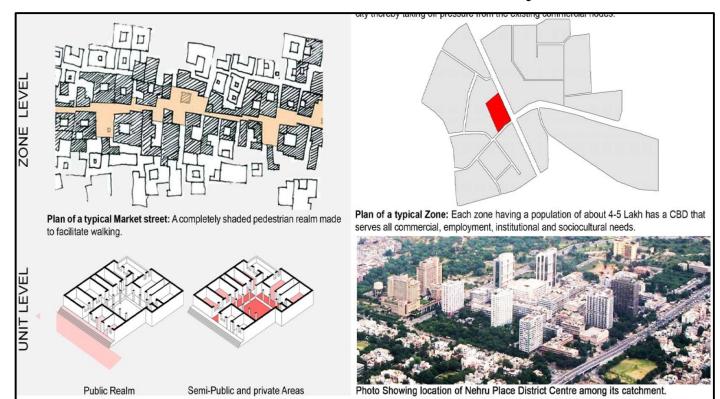


Figure 2 Evolution of CBD at a zone level in New Delhi. Completely shaded pedestrian street facilitates walking and makes a place easy to move around

maximum commercial land use is identified as the CBD

- The Geographical and commercial “Heart” of the City
- Geographical Centre of the City
- ORGANIC DEVELOPMENT IS SEEN in and around the CBD area
- Often, the area is historically significant part of the city.
- Mixed land use is also seen.
- Often, the old city Centre is under decay and giving way to congestion.

It is essential to demarcate the CBD area for analysis as quite often the CBD has no geographical and defined boundary, as Raymond Murphy says:

“The CBD has no fence around it, no wall as there was around the city in Europe in the Middle Ages. You will never see a sign, “You are entering the CBD,” although there may be signs directing you to the city’s downtown area. However, the district can be conceptualized and its position outlined on a map on the basis of this mental construct. How can this best be done?” (Raymond E. Murphy, Editor of Economic Geography, 1971, p.2)

## Ghaziabad: Brief History and Background

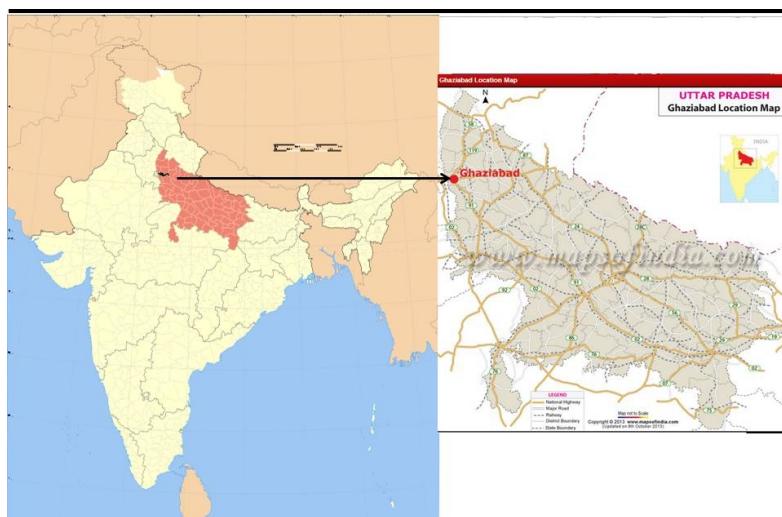


Figure 4 Location of Ghaziabad in the Indian State of Uttar Pradesh, Source: Google maps

Ghaziabad is a planned industrial city in the Indian state of Uttar Pradesh(Figure 3). It is 19 km East of Delhi and 46 km Southwest of Meerut. The city houses the headquarters of the Ghaziabad district. In 1740, the vizier Ghazi-ud-din, who served as the minister of the Moghul Emperor Ahmadshah and Alamgir IInd, established the place and called it Ghaziuddinnagar after himself. He then proceeded to build a spacious structure and that consisted of 120 rooms of masonry with

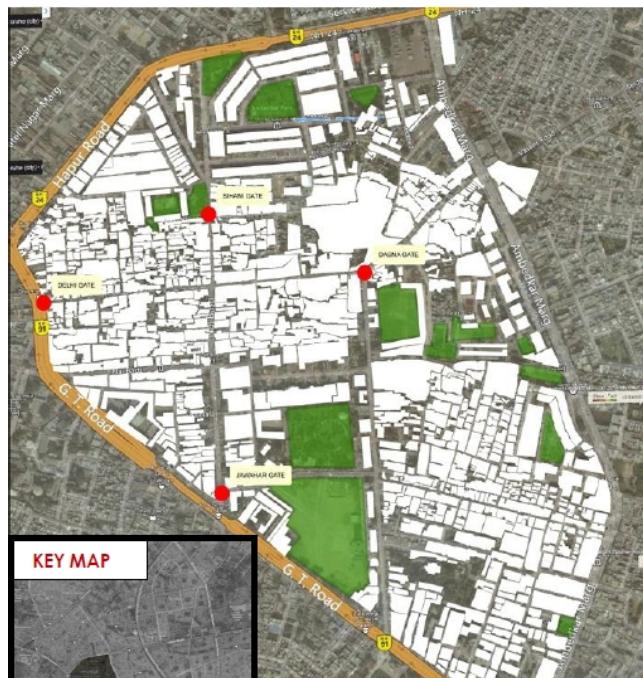


Figure 3 The old city of Ghaziabad with the original four gates, Source: Author

arches that point up. According to records, this city that the vizier established was constructed within the boundary of four giant doors named Dasna Gate, Sihani Gate, Delhi Gate, and Shahi gate as shown in Figure 4. Gradually, the city expanded beyond these four gates. The city was a part of Meerut until 1976 when it became an independent district. Plotted development began around 1960s.

## Delineation of the Study area

The term CBD was used to describe the downtown of American Cities, where the term originated in the industrial towns during 19th century (Pitzl, 2004) but was implied in the western world in the coming decades. The CBD is quite difficult to define as usually there is no boundary demarcating or indicating the CBD area, the CBD area is delineated based on a number of factors if any documentation is required. Hence, CBD cannot be defined in technical terms for it is more of a spatial identity in planning terminology, and often, there is no quantitative definition which can be used to describe CBDs.

Definitions are qualitative such as the CBD is “the nucleus ... of an urban area that contains the main concentration of commercial land use” (McColl, 2005, p. 159) or a “unique area of massive concentration of activities and focus for the polarisation of capital, economic and financial activities in cities” (Drozdz and Appert, 2010, p.2).

The factors as given by Murphy, Waugh, Haggett and Heineberg according to which the spatial extents of a CBD can be determined are: main concentration of land use, main concentration of city's offices, dominance of tertiary sector activities, peak land values, tallest buildings, high degree of accessibility and traffic density and high daytime vs. low nighttime population and low resident population. The subsequent contents of this paper aim to delineate the CBD area in Ghaziabad city based upon the above factors. The Qualitative features to be considered are the vital aspects in area delineation, out of which the most important factor being the main concentration of commercial land use in the city. The factors may or may not be valid for CBDs in general, for eg. but an attempt has been made to identify certain qualitative aspects in order to delineate the CBD area for better documentation.

The above mentioned features are often contorted or degenerated over a period of time due to problems like congestion resulting from population explosion and urban sprawl or conversion of land uses.

On the basis of above features, the CBD area of Ghaziabad city has been delineated using GIS as a mapping and analysis tool.

## Area Delineation in Ghaziabad City

The District of Ghaziabad is divided by the river Hindon into two parts, Trans-Hindon and the Cis-Hindon areas. Figure 5 shows Cis-Hindon areas comprising of the oldest portions of the city and the Geographical heart, while the areas beyond river hindon are known as Trans-Hindon areas namely Mohan Nagar, Sahibabad, Vaishali, Vasundhara & Kaushambi. As clear from Figure 6, Out of the total development area of Ghaziabad, 3.22 % (274 Ha) is being used for commercial and business activities. The main commercial areas are



Figure 5 Trans-Hindon and Cis-Hindon areas of Ghaziabad, Source: Google Maps

situated in the heart of the city, i.e. Cis-Hindon areas.

The main commercial areas include Sahibabad *Sabji Mandi* i.e. Vegetable Market (Trans hindon areas), and the Vegetable Market in Govindpuri and old bus stand areas. About 54 Ha is devoted to main commercial area for vegetable vendors. In the trans-Hindon areas, the commercial areas have been developed based only on the user needs, for high end commercial areas, people still prefer to go to Delhi or to the core of the Ghaziabad city. The old city has Ghantaghari, Jawahar Gate, Sihani Gate, Dasna Gate and Delhi Gate, which was once, the walled city of Ghaziabad, has the old market areas. Also, Turab Nagar market is also a part of these old market areas, amongst the fairly new developed commercial areas include portions along the G.T.Road, Ambedkar Marg and the commercial areas of Navyug Market and Raj Nagar District centre which were developed during



80s and 90s as a part of the plotted development. The old city portion, being highly congested with narrow lanes, poses a serious problem for transportation and mobility, and due to a rapidly increasing population in nearby areas, it is also facing a problem of inadequate parking spaces. While delineating the area, the key objectives were

Existing landuse: Ghaziabad, 2003			
S.No.	Landuse Category	Area(Hectares)	Percentage
1	Residential	4670.00	55.03
2	Commercial and Trade	274.00	3.22
3	Industrial	1710.00	20.16
4	Office	280.00	3.30
5	Community Facilities	253.00	3.00
6	Park, Open Space, Recreation including Green Belt	399.50	4.71
7	Undefined Areas	16.55	0.20
8	Railways	232.55	4.71
9	Roads/Bus Stands/Depots	520.30	6.13
10	Others	129.00	1.52
	TOTAL	8455.00	100.00

Source: Master Plan of Ghaziabad 2021

Figure 6 Land use distribution by percentage in Ghaziabad City, Source: Master plan of Ghaziabad 2021

to identify the land use at a macro and micro level and to identify the commercial areas and to see whether the concept of CBD is applicable to Ghaziabad city.

## Methodology

Figure 7 shows the methodology followed in the study. The Primary data was collected by field survey method. Number of shops and institutions were noted in the area during the fieldwork and photographic survey. The Secondary data was collected from the Master plan and other relevant documents. Various institutions like Ghaziabad Development Authority and Ghaziabad Nagar Nigam helped in collecting base map of Navyug

Market and Raj Nagar District Center. The collected data was compiled to prepare detailed land use map using GIS and it was further used for land use analysis.

## Analysis

The National Capital Region Planning Board(NCRPB) is a statutory body functioning under the Ministry of Urban Development, Government of India. NCRPB has a mandate to systematically develop the National Capital Region (NCR) of India. It is one of the functions of the Board to arrange and oversee the financing of selected development projects in the NCR through Central and State Plan funds and other sources of revenue. In association with Wilbur Smith Associates, NCRPB is undertaking some major projects in NCR, one of which is a proposal for Multi-Level parking at the existing old bus stand area, and the subsequent construction of a new bus terminal on a site located in Loni. An excerpt from Wilbur Smith Associate identifies the area concerned in the study as CBD of Ghaziabad. *The existing bus stand in Ghaziabad is located in the centre of the city at Navyug Chowk. This is major centre and is CBD of Ghaziabad busy with various activities; in addition to the bus stand, a number of commercial establishments, markets, government offices (Ghaziabad Nagar Nigam and Ghaziabad Development Authority) situated here.* (Volume V-D1: DPR for Multi-level Parking Facility at Ghaziabad, Main Report, Wilbur Smith Associates). Using this report as a background study, maps were prepared at a Macro-level and at a detailed level.

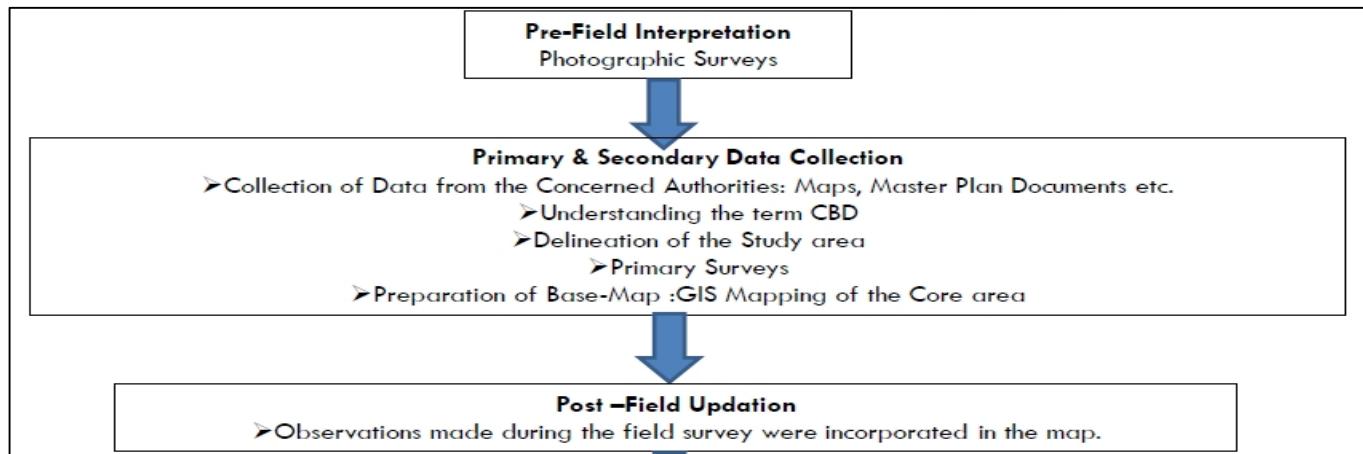


Figure 7 Methodology followed in the Study

Figures 8 & 9 show the delineated area and the land use at a macro level respectively, in the CBD area and the surroundings including the main Bus stand and the Railway Station. It also shows the Raj Nagar District Center developed around early 90s to cater the needs of residents of Raj Nagar and nearby colonies. In the north of the CBD area, Navyug Market is located which houses the main establishments in this area. Detailed land use map was prepared based on photographic and field survey observations.

## Land Use Analysis

Figure 10 shows that the delineated CBD which has an area of 414 acres, i.e. 167Ha, out of which 38% is of Commercial Land use, 22% being Mixed land use with residences on the upper floors and commercial establishments on the lower floors, followed by 36% residential land use which is mostly in the interior areas.

The detailed land use map was prepared mostly on field survey data using GIS, however, there were some limitations faced while GIS mapping:

- Since the Satellite image is not very clear, many buildings have been grouped together on the basis of their land use.
- Unavailability of the map of the old city area: therefore the map was made on the basis of satellite images from Google Earth and Bing Maps.
- A vast majority of buildings have a mixed land use, commercial use on the ground floor and Residential use on the upper floors. They have been categorized separately as "mixed land use".

On the basis of above analysis, it is seen that major percentage of land in the concerned area has Commercial use i.e. 60% (38% Commercial+22% Mixed use).

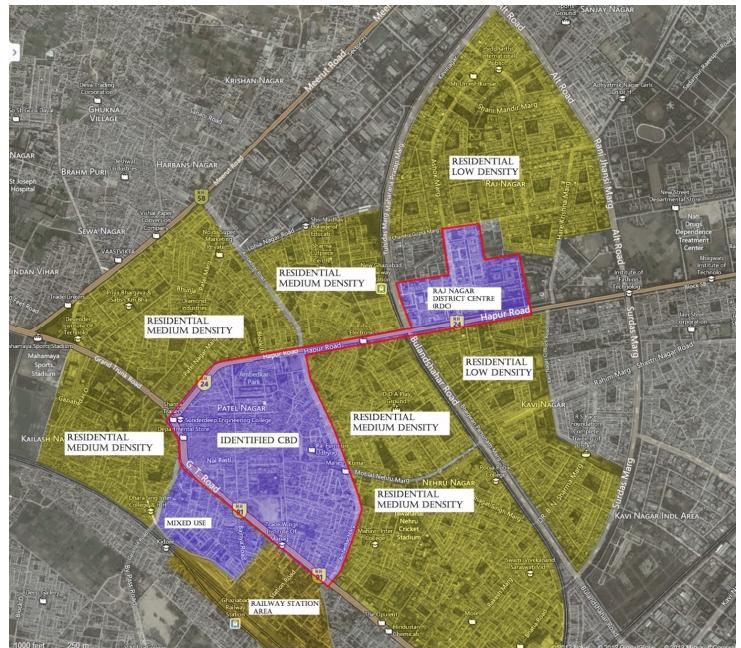


Figure 8 Delineated area and the surroundings, Source: Google maps satellite image, Area delineated by the Author

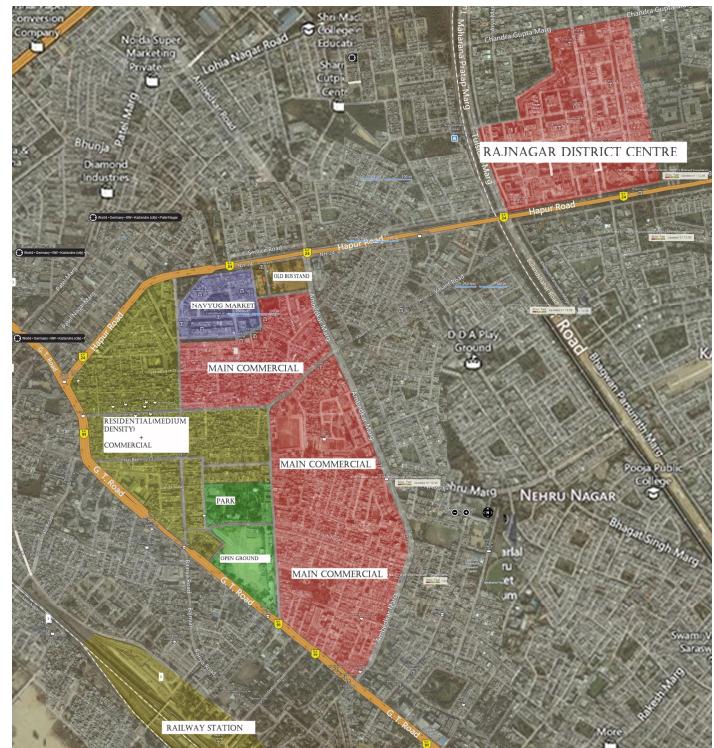


Figure 9 Land use at a Macro Level in Ghaziabad City, Source: Google maps satellite image, Land use identified by Author

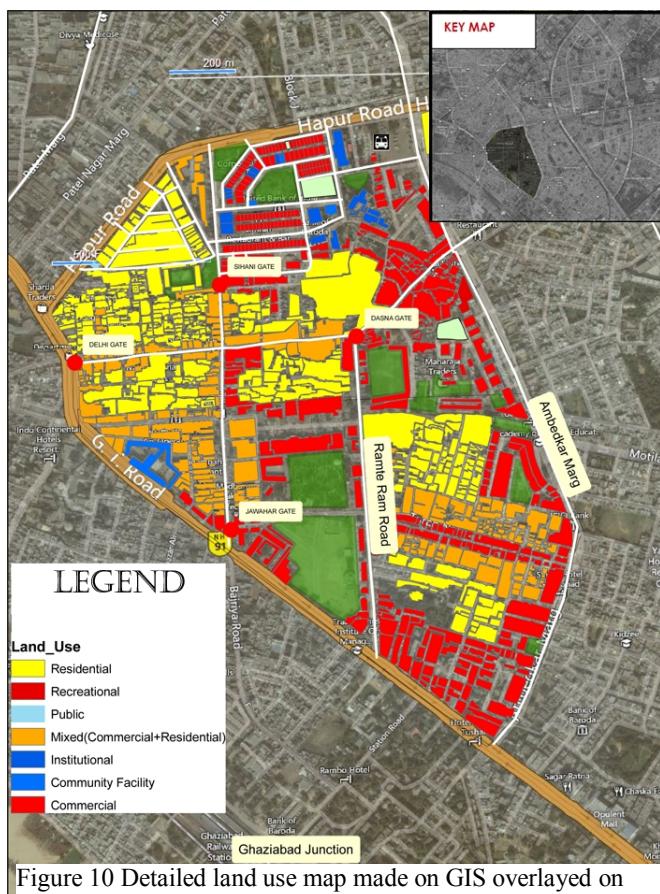


Figure 10 Detailed land use map made on GIS overlaid on Satellite image of the area, Source: Google Earth for satellite image and Author for GIS work

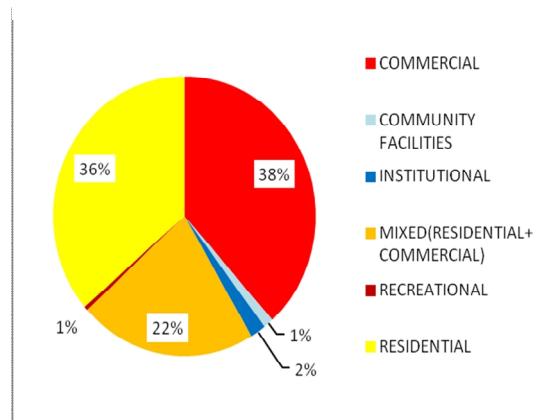


Figure 11 Detailed land use percentage in the CBD area, Source: Author

## Conclusion

On the basis of the study done, and with comparison to the Qualitative features as given by Murphy as mentioned before, the Delineated area of concern in Ghaziabad city can be qualified as CBD, based upon these factors:

- NCRPB in association with Wilbur Smith Associates identifies this area as CBD of the city.
- The main Concentration of commercial land use is found in this area.
- In addition to commercial establishments, this area has the major Government Institutions such as Ghaziabad Nagar Nigam and Ghaziabad Development Authority.
- Peak Land Values: A shopkeeper survey in the areas of Navyug Market and adjoining old market areas was done. For analysis purpose, the areas of Ghantagharpur, Chopla and other old markets were grouped together and the relatively new commercial centers of Navyug Market and Raj Nagar District Center were grouped together, which shows that the mean rent of the shops in these areas is quite high specially in Navyug Market and Raj Nagar District Center ( e.g. Rs. 1,50,000 for 800 sq.ft.) as illustrated in Figure 12. The land rates are as high as Rs.7000 per square feet area.(www.sulekha.com).
- Main concentration of City's offices: Navyug Market area has the city's main offices, alongwith Institutions like Ghaziabad Nagar Nigam and Ghaziabad Development Authority.
- High degree of accessibility and traffic density: Figure 13 shows the trip frequency analysis done by Wilbur Smith



Associates). In their report for the proposal of multi-level parking in the existing bus stand area shows that 89% of Car users visit the area on a daily basis, which clearly indicates that the traffic density is very high. Also, the area being the geographical center of the District is easily accessible from the adjoining areas and the main bus stand and Railway station is also in proximity.

- g. High daytime vs low nighttime population and low resident population: It is seen from the land use analysis that the area under purely residential use is 36% and the area under mixed use i.e. residential and commercial is 22%, though the resident population is quite high, the land-use map indicates that the core residential areas are situated in the interior areas of the CBD, and the majority of commercial use is along the main roads and junctions. Hence, it is evident that there is a low night time population as during field survey, it was found that the shops open usually during 10am to 8pm every day and the activities take place during the peak hours.

The study shows that the delineated area qualifies as the CBD of Ghaziabad and further studies can be done in order to explore the problems faced by

the CBD including the inner city. If further analysis is done, plausible recommendations can be made to eradicate the problems usually faced by congestion of the inner city, and a model can be developed for renewal of inner city areas and CBDs.

## Notes

1. The background study for the City is based on the work done by the author from May 2013 to June 2014.
2. There were some limitations faced while GIS Mapping owing to the quality of the Google Earth Imagery of India.



## GHANTAGHAR, CHOPLA, TURABNAGAR AND ADJOINING AREAS

## NAVYUG MARKET AND RAJ NAGAR DISTRICT CENTRE

RELATION BETWEEN AREAS AND RENTS

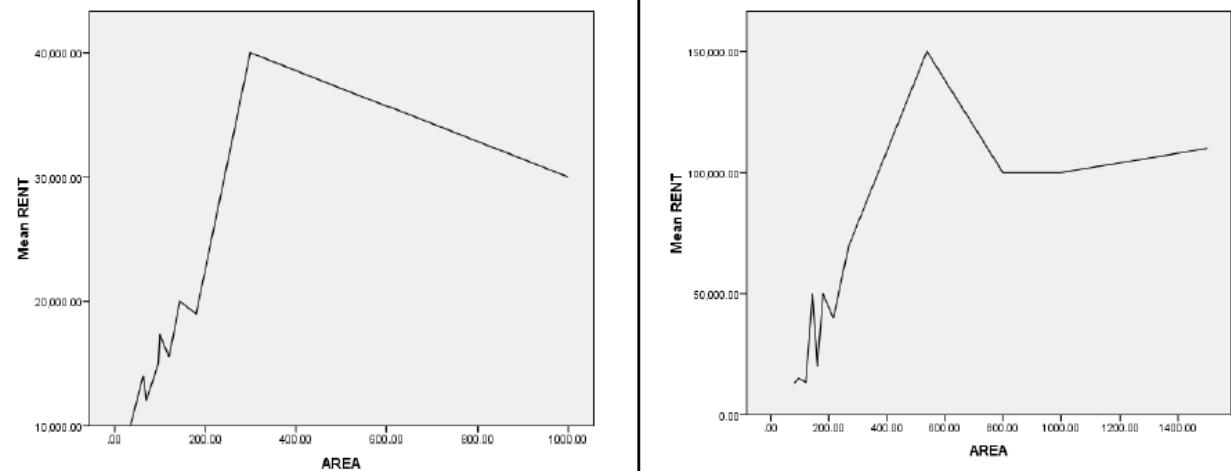


Figure 13 Relationship between areas and rents of the shops in the commercial areas of Ghaziabad

Trip Purpose	Car Users (%)	Non-Car Users
Daily	89%	86%
Weekly	0%	12%
Occasionally	11%	0%
Others	0%	2%
Total	100%	100%

Figure 12 Details of trip frequency and purpose of car users and non car users in the CBD area, Source: Volume V-D1: DPR for Multi-level Parking Facility at Ghaziabad, Main Report, Wilbur Smith Associates



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